nant), Plasma/Albumin-Free Method (rAHF-PFM), was developed as an alternative treatment option for patients with hemophilia A. However, there is concern that this new technology contributes significant cost to the health care of these patients. This model was developed to delineate the economic impact of rAHF-PFM on a health care plan's budget. **METHODS:** Payer perspective is utilized for the analysis under a one-year time horizon. The economic impact of the introduction of rAHF-PFM was determined using average wholesale price. Estimates of hemophilia A prevalence, factor VIII utilization, treatment regimens, and clinical outcomes were derived from published literature. Migration from previous therapies (i.e., Helixate, Kogenate, Recombinate, ReFacto, pdFVIII) to rAHF-PFM (17% of patients) was based on equivalent market shares. Numerous sensitivity analyses were performed to demonstrate the robustness of the findings. **RESULTS:** In a 1,000,000 member plan, following introduction of rAHF-PFM, with 82.5% on-demand use (30 IU/kg/bleed with 16.8 bleeds/year) and 17.5% prophylactic use (60 IU/kg/week with 6.6 bleeds/year), it is estimated that overall annual factor VIII treatment cost is $3,835,191, an annual increase of $39,268 ($0.003 per member per month increase). **CONCLUSIONS:** While there is heightened concern regarding the potential budget impact of new technologies in health care, this model demonstrates that rAHF-PFM can be provided to patients with relatively modest impact on a health care plan's budget.

PBR3

ECONOMIC MODELING OF ANTIHEMOPHILIC FACTOR (RECOMBINANT), PLASMA/ALBUMIN-FREE METHOD (RAHF-PFM): VALUE OF POTENTIAL VIRAL TRANSMISSION REDUCTION DUE TO PLASMA/ALBUMIN-FREE FORMULATION

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OBJECTIVES: While treatment options for hemophilia A have provided effective disease management and have greatly increased life expectancy, the Medical and Scientific Advisory Council (MASAC) of the National Hemophilia Foundation has recommended that "all efforts should be made to remove human albumin from recombinant factor VIII products" to obviate lingering concerns regarding the potential for viral transmission through the use of factor VIII concentrates. To delineate the economic value of a plasma/albumin-free factor VIII product, the fiscal impact attributable to such a product was determined under assumed emergence of a novel infectious blood/plasma borne virus. **METHODS:** A deterministic model was developed incorporating age-adjusted and proportionally weighted median present-value (1999) annual expense estimates for the management of HIV and AIDS for males, proportion of the hemophilia A population infected due to the emergence of a novel blood (plasma) borne virus (5%), fractional expense of that observed with HIV/AIDS (5%), and the number of bleeding events experience by a given individual per year (i.e., international units of factor VIII administered). Analyses were conducted for individuals weighing 20-, 50-, and 80-kg. **RESULTS:** Under the assumption of the emergence of a novel infectious blood (plasma) borne virus, the model revealed a savings potential ($p < 0.05$) with the use of a plasma/albumin-free factor VIII product relative to use of a plasma/albumin-containing product, ranging from $0.06 per IU (80 kg male, 12 bleeding episodes/year) to $0.48 per IU (20 kg male, 6 bleeding episodes/year), equating to a potential cost-avoidance of $1742 to $6967 per year (present value). **CONCLUSIONS:** Antihemophilic Factor (recombinant), Plasma/Albumin-Free Method (rAHF-PFM) offers hemophilia A patients a treatment regimen meeting MASAC recommendations which eliminates the risk of infection from human and animal protein additives with potential economic savings stemming from avoidance of future costs associated with infections transmitted through factor replacement therapy.

PBR4

COST-EFFECTIVENESS OF TRANSFUSING BLOOD PLATELETS PREPARED WITH PATHOGEN INACTIVATION TREATMENT IN JAPAN

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OBJECTIVE: The residual risk of transmitting current and emerging infectious blood-borne pathogens via blood transfusion persists despite recent blood safety advances. The INTERCEPT Blood System (IBS) for platelets has been developed to further reduce these pathogen transmission risks during platelet transfusions. The objective of this study was to assess the cost-effectiveness of using single-donor (aphaeresis) platelets (SDP) processed with IBS in Japan. **METHODS:** A literature-based decision analysis model was used to assess the cost-effectiveness of the IBS in four patient populations that account for most of the platelet usage in Japan: 1) a 10-year old male with acute lymphocytic leukaemia (ALL); 2) a 50-year old male with non-Hodgkin's lymphoma (NHL); 3) a 60-year old male undergoing heart bypass surgery (CABG); and 4) a 70-year old female undergoing a hip arthroplasty. Pathogen exposure included HIV, HCV, HBV, HTLV-I, bacterial sepsis, emerging and migrating pathogens. The model compared projected quality-adjusted life-year saved (QALY) and costs for patients receiving untreated vs. treated platelets. **RESULTS:** The incremental cost per QALY gained by using SDP + IBS vs. SDP ranged from ¥96,248,673–¥793,899,885. Inclusion of a hepatitis C-like emerging pathogen benefit significantly improved the cost effectiveness to ¥20,534,864–¥434,648,944. The model was most sensitive to mortality from bacterial contamination and the risk rate of emerging and/or migrating pathogens. The model was relatively insensitive to transmission risks from currently known viruses. **CONCLUSION:** The cost-effectiveness of IBS for platelets is comparable and mostly better to that of other blood and general safety interventions (e.g., mini-pool NAT testing, chemical regulations, traffic safety measures) that are accepted as valuable in Japan. Thus, pathogen inactivation with IBS may be considered as a desirable strategy to further improve the safety of platelet transfusions and a valuable insurance against the threat of new emerging and migrating pathogens.

PBR5

COST-EFFECTIVENESS OF EXTENDED VENOUS THROMBOEMBOLISM PROPHYLAXIS WITH FONDAPARINUX IN MAJOR ORTHOPAEDIC SURGERY IN SWITZERLAND

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OBJECTIVES: Extended prophylaxis with the synthetic pentasaccharide fondaparinux for one month versus one week in hip fracture surgery has been shown to reduce the risk of venous thromboembolism (VTE) by 96% in the Penthifra Plus trial. The cost-effectiveness of extended prophylaxis with fondaparinux from a Swiss perspective still remains to be determined. **METHODS:** We developed a decision analytic cost-effectiveness model comparing the use of fondaparinux for four weeks versus one week from a health care perspective. The analyses were performed for patients undergoing hip fracture surgery (HFS) and

total hip replacement (THR) separately. Efficacy data were extracted from published randomised controlled trials. Cost data were derived from the literature and other published sources and natural history data after VTE from observational studies. Costs were expressed in 2003 Swiss Francs (CHF) and effects as life-years gained (LYG). Deterministic sensitivity analysis was used to assess the robustness of the model. **RESULTS:** In patients undergoing HFS, the incremental cost-effectiveness ratio (ICER) of extended fondaparinux prophylaxis versus a one-week regimen was CHF 2920/LYG after 30 days, with cost-savings reached after 5 years. In patients undergoing THR, the ICER of extended fondaparinux prophylaxis versus a 1-week regimen was CHF 21183/LYG after 30 days, with cost-savings reached after 5 years. C**CONCLUSIONS:** Within the limitations of the model, extended prophylaxis with fondaparinux is cost-effective for the prevention VTE in major orthopaedic surgery in Switzerland.

PBR6

ISAM: INTERNATIONAL STUDY OF ANTICOAGULATION MANAGEMENT. THE ITALIAN EXPERIENCE

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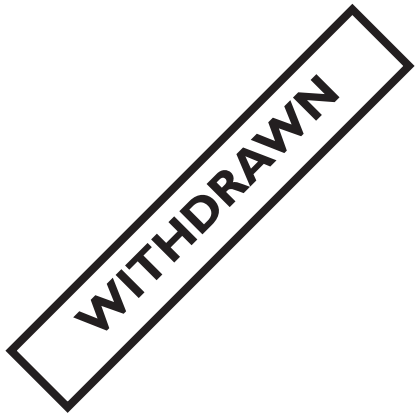
OBJECTIVES: ISAM, a multicenter, observational, retrospective, cross-sectional study, aimed at describing the anticoagulation treatment monitoring on patients with chronic non-valvular atrial fibrillation (CNVAF), receiving Oral Anticoagulation Therapy (OAT) for stroke prophylaxis, (follow-up Jan-Dec 2002); and estimating direct and indirect costs in the Italian National Health System perspective. **METHODS:** Seven out of 8 Anti-Coagulation Clinics (ACC's), selected to represent the whole Italian territory, enrolled 23 randomized patients with CNVAF. **RESULTS:** The total number of patients was 177 : 102 males and 75 females (mean age 72 years); 90% with chronic Atrial Fibrillation and 10% with paroxysmal; 77% subjects received warfarin and 23% acenocumarol. Forty percent of all tests required dosage changes and the mean interval between two consecutive tests was 20 days. The quality of OAT monitoring, according to Rosendaal's analysis, was: 67.9% of time spent in the range 2.0–3.0, 21% below and 10% above this range. Unit costs, using National tariffs were: 5.16€ and 12.91€ for INR tests and visits respectively, retail price for drugs (warfarin: 0.0145€/mg; acenocumarol: 0.0095€/mg) and appropriate DRG tariffs for admissions. Total cost per patient per year was 943€: 745€ direct costs and 198€ indirect ones. Medical costs, 525€, included OAT drug (5%), INR tests (18%), monitoring visits (44%) and admissions (33%); non-medical costs (transportation) amounted to 220€. **CONCLUSIONS:** Patients in ACC management could obtain good level of INR control: Time in Target Range (TTR) 67.9%. ISAM is a first attempt to assess cost of OAT monitoring in Italy, confirming that AF is a growing health problem, as well as a cause of health costs that includes drugs, INR tests and monitoring visits, which are the most determinant in the total costs. In addiction, indirect costs (productivity loss by patients or their caregivers) were 21% of total costs.

PBR7



BLOOD RELATED DISEASES/DISORDERS

BLOOD RELATED DISEASES/DISORDERS—Quality of Life/Utility/Preference Studies

PBR8

PHYSICIANS' AND PHARMACISTS' PREFERENCES FOR HEMOPHILIA TREATMENT EVALUATED BY CONJOINT ANALYSIS

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OBJECTIVES: To evaluate the preferences of physicians and pharmacists toward products used for replacement therapy. **METHODS:** This study investigates preferences on hemophilia care in 69 physicians and 58 pharmacists using conjoint analysis, a technique for establishing the relative importance of different characteristics in the provision of a good or service. Attributes and levels were: perceived viral safety (as that provided by highly purified double inactivation plasma derived versus recombinant concentrates), risk of inhibitor development (1/4, 1/6, 1/10 PUP's), factor infusion frequency on prophylaxis (thrice, twice, once a week), pharmaceutical dosage form (lyophilized material or a ready-to-use solution), way of distribution (home, office pharmacy, hospital) and price. **RESULTS:** Excluding pharmaceutical dosage form for physicians and office pharmacy delivery for pharmacists, all attributes considered tested important to respondents. Physicians showed a strong preference toward both outcome variables (viral safety, risk of development of inhibitors) and process variables (distribution, infusion frequency) while pharmacists showed a strong preference only for outcome variables and unexpectedly not toward way of distribution. **CONCLUSIONS:** Our study is the first to apply conjoint analysis to establish preferences of physicians and pharmacists in hemophilia replacement therapy. This study provided evidence of the usefulness of conjoint analysis in plan